Rejections under 35 U.S.C. § 112

The examiner rejected claims 1-40 under 35 U.S.C. § 112, 2nd paragraph for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examiner states: *in the matter of the claimed transparency, the claimed subject matter needs to be better described, as to be easily understood by one of ordinary skill in the art. It is not understood the usage of the verb transparent or how transparency provides anything novel.* Applicant respectfully traverses this rejection.

MPEP (2173.01) states "A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicant are their own lexicographers. MPEP (21703.02) states "definiteness of claim language must be analyzed, not in a vacuum, but in light of the content of the particular application disclosure."

Applicant respectfully submits the meaning of "transparent" and how "transparency" provides novelty is made plain from the specification as follows:

From the specification, page 14 (lines 14-21),

> Using the native communication protocols and the physical interfaces with the physical communication protocol, messages may be sent between the gaming machine and the communication multiplexer device 304 using the game service network interfaces 302. However, the ***communication multiplexer device*** 304 as well as other network hardware such as the gateway device 306 and the local area network 320 may be ***transparent to the gaming machine 2***. Thus, the gaming machine 2 may send a message over one of the gaming service network interfaces 302 assuming it will reach a particular game service server without any knowledge of the network hardware between the gaming machine and the game service server. Additionally, the gaming machine 2 may receive a message from one of the game service servers over one of the network interfaces 302 without knowledge of the network hardware between the gaming machine and the game service server.

From the specification, page 18 (lines 9-16),

> Using a communication multiplexer device 304 that multiplexes messages in communication protocols native to the gaming machine but is ***transparent*** to the gaming machine allows for the number of wired connections from the gaming machine to be reduced or eliminated ***without modifying software on the gaming machine***. Advantages to reducing the number of wired connections include decreased gaming server network installation costs, maintenance costs and operation costs. An advantage of reducing the number wires without modifying software on the gaming machine are eliminating significant costs associated with modifying software on the gaming machine and then submitting the software for re-approval.

Further, from the specification, page 19 (lines 18-30),

Some communication functions provided by the multiplexer communication device 304, such as protocol conversion, could be provided by modifying software on the gaming machine. However, since each time the software on an existing gaming machine is modified it must be submitted for re-approval, this approach may be impractical. For instance, in the example above, a new EEPROM with additional communication software could be developed and installed on a gaming machine after the EEPROM passed the approval and inspection process. Currently, nearly 700,000 gaming machines are being utilized in jurisdictions where gaming software is regulated. The installation of new communication software on all of these gaming machines might cost hundreds of millions of dollars. Further, the process would have to be repeated each time new communication software was installed. Thus, since the communication multiplexer device described in this invention provides additional communication capabilities to the gaming machine ***without modifying regulated gaming software*** on the gaming machine, an advantage of using the communication multiplexer device to provide communication functions may be reduced costs associated with re-approval of software on the gaming machine.

Therefore, the rejection, based upon 35 U.S.C. § 112, 2nd paragraph, of claims 1-40 without amendment is believed overcome thereby. However, for the purposes of clarification and to expedite prosecution, claims 1, 17 and 31 have been amended.

Rejections under 35 U.S.C. § 103

The Examiner rejected claims 1-40 U.S.C. 103 (a) as being unpatentable over Robb (US Patent No. 6,448,580), O'Toole et al. (US patent No. 6,345,485), Goody (US Patent No. 6,097,721), Cunningham et al. (US Patent no. 6, 366, 217) and Alcorn et al (US Patent no. 6, 149, 522) viewed collectively. The rejection is respectfully traversed.

All of the instant claims as amended, 1-40 describe a communication multiplexer device with a plurality of communication ports, an output communication port and processor logic. The communication multiplexer device is connected to a master gaming controller on a gaming machine and one or more game service servers and receives communications from both the one or more game servers and the master gaming controller via the plurality of communication ports and the output communication port. The communication multiplexer device controls communications between the plurality of communication ports and the output communication port. Further, the communication multiplexer device is transparent to the master gaming controller "allowing the master gaming controller to communicate with a particular game service server without knowing whether the communication multiplexer device is in a communication path between the master gaming controller and the particular game service server." The structure

and function described in the limitations of claims 1-40 are not described in the combination of references or individual references cited by the examiner.

The examiner has relied on the Robb reference to provide the basis of a gaming machine. In FIG. 1, Robb describes an end-user player can use a modem to communicate with a casino server or a central server. Details of the communication methods that are used between the gaming machines and servers are not provided. Robb does not teach or suggest a communication multiplexer device connected to the master gaming controller wherein the communication multiplexer device is transparent to the master gaming controller allowing the master gaming controller to communicate with a particular game service server without knowing whether the communication multiplexer device is in a communication path between the master gaming controller and the particular game service server. Further, Robb does not provide any motivation for needing such a communication multiplexer device. In addition, a communication multiplexer device that is connected to but is transparent to a master gaming controller allowing the master gaming controller to communicate with a particular game service server without knowing whether the communication multiplexer device is in a communication path between the master gaming controller and the particular game service server with the structure and function described in the limitations of the instant claims 1-40 is not found in Robb, the other cited references or the combination of the cited references.

Further, for the combination cited examiner, the applicant doesn't see a motivation or suggestion in the references themselves or skill in the art to modify Robb to provide the structure and function of the present invention and without using the hindsight of the applicant's disclosure. **Although the examiner has cited references such as Goody and Cunningham to provide capabilities of multiplexing and network functions and the examiner has suggested multiplexing and network functions may be of benefit if applied in Robb, none of the references provide a motivation, such as an identification of a problem, that would lead one skilled in the art to make the modifications suggested by the examiner. Goody and Cunningham do not describe any of the unique requirements of gaming, such as it being heavily regulated, and the implications of this regulation on gaming machine software. Robb does not describe any aspects of their network architecture, as related to the gaming machines, as being limited or deficient. Thus, applicant asks, why would someone of skill in the gaming arts look at the Robb reference and decide to modify it?**

The applicant has suggested that one advantage of the present invention is that certain communication functions may be added to a gaming machine without modifying software on the gaming machine. This aspect of the invention is important because one of the unique requirements of gaming is the heavy regulation of software on gaming machines used to provide games of chance and costs associated with modifying it. In one embodiment of the present invention, functions may be added to a gaming machine without modifying software on the gaming machine when a communication multiplexer device is used with the gaming machine

that is transparent to master gaming controller on the gaming machine. The combination of references cited by the examiner do not teach or suggest such a communication multiplexer device. For at least these reasons, Robb, O'Toole et al., Goody, Cunningham et al. and Alcorn et al, and their combinations can't be said to anticipate or render obvious the present invention as recited in claims 1-40 and the rejection is believed overcome thereby.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

David P. Olynick
Reg. No.: 48,615

P.O. Box 778
Berkeley, CA 94704-0778
510-843-6200

APPENDIX A

1. (Twice Amended) A gaming machine comprising:

a master gaming controller designed or configured to control a game played on the gaming machine wherein each game played on the gaming machine includes receiving a wager for the game, determining the game outcome and the presenting the game outcome and to communicate with one or more game service servers wherein each game service server provides at least one game service;

a communication multiplexer device connected to the master gaming controller wherein the communication multiplexer device is transparent to the master gaming controller allowing the master gaming controller to communicate with a particular game service server without knowing whether the communication multiplexer device is in a communication path between the master gaming controller and the particular game service server[in its communications with the one or more game service servers], the communication multiplexer device comprising

(i) a plurality of communication ports wherein each communication port is capable of transmitting and receiving messages with the master gaming controller using a native communication protocol,

(ii) an output communication port for transmitting and for receiving messages with the one or more game service servers using a second communication protocol, and

(iii) processor logic that multiplexes and demultiplexes messages between the plurality of communication ports and the output communication port and that converts between the native communication protocol and the second communication protocol; and

a network interface connected to the output communication port that receives and transmits messages using the second communication protocol.

2. The gaming machine of claim 1, wherein the game service is selected from group consisting of progressive game services, bonus game services, player tracking services, cashless ticketing services, game downloading services, prize services, entertainment content services, concierge services, lottery services and money transfer services.

3. The gaming machine of claim 1, wherein the network interface is a wireless radio connection.

4. The gaming machine of claim 1, wherein the network interface is a wired Ethernet connection.

5. The gaming machine of claim 3, further comprising:

an antenna for transmitting and receiving communications over the wireless radio connection.

6. The gaming machine of claim 1, wherein the native communication protocol is selected from the group consisting of a progressive game service protocol, a bonus game service protocol, a player tracking service protocol, a cashless ticketing service protocol, a game downloading service protocol, a prize service protocol, an entertainment content service protocol, a concierge service protocol, a lottery service protocol and a money transfer service protocol.

7. (Amended) The gaming machine of claim 1, wherein the plurality of communication ports comprises a first communication port using a first native communication protocol a second communication port using a second native communication protocol.

8. (Amended) The gaming machine of claim 1, wherein the plurality of communication ports comprises a first communication port that receives and sends messages from a first game service server and a second communication port that receives and send messages from a second game service server.

9. The gaming machine of claim 1, wherein communication between the gaming machine and the one or more game servers is encrypted.

10. (Amended) The gaming machine of claim 1, wherein the processor logic is capable of configuring each of the plurality of communication ports to emulate a native communication protocol.

11. (Amended) The gaming machine of claim 10, wherein the communication multiplexer communication device is capable of communicating with a boot server to determine the native communication protocol to be used on each of the plurality of communication ports.

12. The gaming machine of claim 1, wherein the one or more game service servers are selected from the group consisting of a prize server, a game server, an entertainment content server, a cashless ticketing server, progressive game server, a bonus game server, a concierge service server, a lottery server and a money transfer server.

13. The gaming machine of claim 1, wherein the game played on the gaming machine is at least one of a video slot game, a mechanical slot game, a lottery game, a video poker game, a video black jack game, and a video pachinko game.

14. The gaming machine of claim 1, wherein the second communication protocol is a TCP/IP communication protocol.

15. The gaming machine of claim 1, wherein the gaming machine employs regulated gaming software that provides messages in the native communication protocol and wherein the regulated gaming software is not modified to accept messages transmitted in the second communication protocol.

16. (Amended) The gaming machine of claim 1, wherein a physical interface of the one or more communication ports is selected from the group consisting of RS-422/485, Fiber Optic, RS-232, DCS Current Loop, Link Progressive Current Loop, IEEE (Institute of Electronic and Electrical Engineers) 1394-compatible, Ethernet and USB (Universal Serial BUS)-compatible.

17. (Twice Amended) A multiplexer communication device for multiplexing communications between a master gaming controller on a gaming machine and one or more game service servers, the multiplexer communication device comprising:

a plurality of communication ports wherein each communication port transmits and receives messages between the gaming machine and the multiplexer communication device in a native communication protocol;

a multi-port communication board allowing each communication port to be configured to accept multiple native communication protocols;

an output communication port that transmits messages addressed to one or more game servers and receives messages from one or more game service servers addressed to one of the plurality of communication ports using a second communication protocol; and

processor logic that is capable of multiplexing and demultiplexing messages between the plurality of communication ports and the output communication port and that converts between the native communication protocol and the second communication protocol wherein the communication multiplexer device is transparent to the master gaming controller in its communications with the one or more game service servers <u>allowing the master gaming controller to communicate with a particular game service server without knowing whether the communication multiplexer device is in a communication path between the master gaming controller and the particular game service server</u>.

18. The communication multiplexer device of claim 17, wherein the gaming machine employs regulated gaming software that provides messages in the native communication

protocol to the one or more communication ports and wherein the regulated gaming software is not modified to accept messages transmitted in the second communication protocol.

19. The communication multiplexer device of claim 17, further comprising:
an EEPROM that provides configuration information to the processor board.

20. The communication multiplexer device of claim 17, further comprising:
a firewall connected to the output communication port.

21. The communication multiplexer device of claim 17, further comprising:
a power supply.

22. The communication multiplexer device of claim 17, further comprising:
a network interface board.

23. The communication mutliplexer device of claim 22, wherein the network interface board provides a wireless radio network interface.

24. The of claim 22, wherein the network interface board provides a Ethernet network interface.

25. The communication mutliplexer device of claim 17, wherein the second communication protocol is a TCP/IP communication protocol.

26. The communication mutliplexer device of claim 17, wherein the native communication protocol is selected from the group consisting of a progressive game service protocol, a bonus game service protocol, a player tracking service protocol, a cashless ticketing service protocol, a game downloading service protocol, a prize service protocol, an entertainment content service protocol, a concierge service protocol, a lottery service protocol and a money transfer service protocol.

27. (Amended) The communication multiplexer device of claim 17, wherein a physical interface of the one or more communication ports is selected from the group consisting of RS-422/485, Fiber Optic, RS-232, DCS Current Loop, Link Progressive Current Loop, IEEE (Institute of Electronic and Electrical Engineers) 1394-compatible, Ethernet and USB (Universal Serial BUS)-compatible.

28. The communication mutliplexer device of claim 17, further comprising:
an antenna connected to the output communication port.

29. (Amended) The communication mutliplexer device of claim 17, wherein the plurality of communication ports comprise 8 communication ports.

30. (Amended) The communication mutliplexer device of claim 17, wherein the plurality of communication ports comprise 16 communication ports.

31. (Twice Amended) A method of providing communications between master gaming controller on a gaming machine and one or more game service servers in a communication multiplexer device connected to the gaming machine and the one or more game service servers, the method comprising:

establishing communications with a boot server located outside of the communication multiplexer device;

initializing one or more of a plurality of communication ports on the communications multiplexer device wherein each of the initialized communication ports is connected to a game service network interface on the gaming machine;

mapping each of the initialized communication ports to a port game service server;

configuring each of the one or communication ports to accept a native communication protocol used by the master gaming controller on the gaming machine for communications over the game service network interface with the port game service server wherein the communication multiplexer device is transparent to the master gaming controller allowing the master gaming controller to communicate with a particular game service server without knowing whether the communication multiplexer device is in a communication path between the master gaming controller and the particular game service server;

establishing a communication connection between each communication port and the port game service server;

receiving a message from the master gaming controller via a first initialized communication port in the native communication protocol used on the first initialized communication port and

transmitting the message using a second communication protocol different from the native communication protocol to the port game service server mapped to the first initialized communication port.

32. The method of claim 31, wherein the gaming machine employs regulated gaming software that provides messages in the native communication protocol to the one or more

communication ports and wherein the regulated gaming software is not modified to accept messages transmitted in the second communication protocol.

33. The method of claim 31, wherein the communication multiplexer device is assigned an IP address by the boot server.

34. (Amended) The method of claim 31, further comprising:

converting messages from the gaming machine in the native communication protocol received at one of the initialized communication ports to the second communication protocol; and

transmitting the messages in the second communication protocol to the port game service server.

35. (Amended) The method of claim 31, further comprising:

converting messages from the port game server addressed to one of the initialized communication ports in the second communication protocol to the native communication protocol of the communication port; and

transmitting the messages in the native communication protocol via the initialized communication port to the master gaming controller on the gaming machine.

36. The method of claim 31, further comprising:

receiving a message from the port game service server wherein the message contains a communication port address; and

routing the message from the game service server to the communication port indicated by the communication port address.

37. (Amended) The method of claim 31, further comprising:

receiving a message from the gaming machine at one of the initialized communication ports;

determining an address of the game service server corresponding to the one communication port; and

routing the message from the gaming machine to the address of the game service server.

38. (Amended) The method of claim 31, wherein the native communication protocol is selected from the group consisting of RS-422/485, Fiber Optic, RS-232, DCS Current Loop, Link Progressive Current Loop, IEEE (Institute of Electronic and Electrical Engineers) 1394-compatible, Ethernet and USB (Universal Serial BUS)-compatible.

39. The method of claim 31, wherein the second communication protocol is a TCP/IP communication protocol.

40. The method of claim 31, wherein the one or more game service servers are selected from the group consisting of a prize server, a game server, an entertainment content server, a cashless ticketing server, progressive game server, a bonus game server, a concierge service server, a lottery server and a money transfer server.